

**ARCHAEOLOGICAL EVALUATION
AT THE PROPOSED SITE OF A
NEW VISITOR CENTRE
KENTS CAVERN, TORQUAY, DEVON**

by

S.J. Reed

Exeter Archaeology

Report No. 02.39

July 2002

Contents

1. Introduction	1
1.1 Archaeological background	1
1.2 The site	2
2. Method	2
3. Results	2
3.1 Evaluation trenches	2
3.1.1 Trench 1	2
3.1.2 Trench 2	3
3.2. Boreholes	3
3.2.1 Borehole 1	3
3.2.2 Borehole 2	3
3.2.3 Borehole 3	4
4. Conclusions	4
Acknowledgements	4
Sources consulted	5
Appendix 1: Context list	6
Appendix 2: Finds list <i>by</i> G. Langman	7

List of illustrations

Fig. 1 Location of site

Fig. 2 Location of trenches 1–2, boreholes 1–3 and profile across site.

Fig. 3 Sections.

Fig. 4 Profile.

Pl. 1 Trench 1. Looking west.

Pl. 2 Trench 2, showing tip lines within dumped material. Looking south.

Pl. 3 Drilling rig set up over borehole 3. Looking north.

1. INTRODUCTION

This report describes the results of an archaeological evaluation undertaken by Exeter Archaeology (EA) at Kents Cavern, Torquay, Devon (SX 9341 6413) in April/May 2002. The site is a Scheduled Ancient Monument (Devon 10717) and also lies within an English Nature Conservation Area.

The work was commissioned by the owner Mr N. Powe and undertaken under a Class 7 consent granted by English Heritage in advance of an application for Scheduled Monument Consent relating to the construction of a new visitor centre.

The proposed development will cover an open area of 286m² immediately to the east of the main cave entrances. It was thought that this area would contain the spoil from 19th-century investigations, which might have only been superficially screened for the recovery of artefacts or faunal remains.

The recent evaluation was therefore intended to determine the nature of the stratigraphy in the proposed development area and the potential impact of the scheme upon any surviving archaeological deposits. It was undertaken in accordance with a brief prepared by English Heritage (2001) in response to a previous Scheduled Monument Consent application, and a subsequent EA project design (February 2002) approved by English Heritage.

1.1 Archaeological background

Kents Cavern (centred at approx. SX 9341 6413) contains the most important Palaeolithic cave deposits in Britain, which date from over 350,000 to 10,000 years ago. The caves themselves were carved from the Devonian Limestone bedrock by an underground river some two million years ago. Successive ice ages deposited secondary limestone and sedimentary deposits within the cave, brought into the cave complex by the underground river.

The caves were extensively investigated in the 19th and 20th centuries, though areas of undisturbed *in situ* deposits still survive within the cave complex. Archaeological investigation of the caves began in 1825 when Father John MacEnery recorded the cave's stratigraphy and recovered bones and flintwork. More structured investigations by William Pengelly between 1865 and 1880 recovered some of the oldest material recovered from the site in the form of hand-axes dating from over 350,000 years ago. Further investigations by Arthur Ogilvy in 1925 and 1941 yielded a human jawbone dating from 31,000 years ago.

The stratigraphy within the cave system consists of two major stalagmite floors, which provide dating for the archaeological contexts. The upper floor seals material over 10,000 years old, while the lower floor seals deposits dating from 350,000 years ago. Finds from the upper floor and overlying stratigraphy date from the post-Palaeolithic period, while below this level are sealed at least three distinct Palaeolithic horizons. Finds recovered from between these floor levels include bone, antler and lithics associated with human remains. Faunal remains are prolific throughout the cave deposits and have enabled palaeoenvironmental changes to be reconstructed through several Glacial/Interglacial cycles.

Access into the caves is by two main entrances, opening out onto a flat terrace platform halfway up Lincombe Hill. Further openings provided access to the cave in earlier times, including the infilled or 'choked' passages of the 'Sally Ports' to the south of the present

entrance(s). In addition one of the eastern extremities of the cave is a rising passage from the High Level Chamber, which is thought to connect with the surface.

The proposed development area is the flat ‘platform’ that lies just outside the cave entrances, and it has been thought that this may have been created by the dumping of spoil from the 19th-century investigations. Beatrix Potter’s description of the site, when visiting it in 1893, described the access to the cave as being ‘a dilapidated wooden door [which] was flush into the bank. Outside an artificial plateau or spoil bank of slate, overgrown’. It is possible, therefore, that this ‘spoil bank of slate’ represents later 19th-century dumping, placed here to raise ground level to facilitate access into the caves. As such, it would be relatively sterile in terms of Palaeolithic material.

1.2 **The site** (Figs 1–2)

The site consists of a complex of buildings, a gift shop, visitor information area, cafe and toilet block, all built against the limestone rock-face. Access to the two cave entrances is through the gift shop and visitor information area, which provide a sheltered access into the cave. Outside these buildings the area has been landscaped and levelled to provide a picnic area consisting of a grass and concrete slab area with picnic benches, which also contains a ticket booth and hardstanding for queueing. This level area extends c. 10m east from the buildings, before the ground level drops some 18m to the rear gardens of the houses along the west side of Ilsham Road.

The proposed development lies to the east and south of the cave’s main entrances and consists of the construction of a new visitor/education centre and entrance to the gift shop, refurbishing of the toilet facilities and construction of an area of decking. The proposed development covers an approximate area of 286m², excluding any areas of external decking.

2. METHOD (Fig. 2)

Two evaluation trenches were hand-dug on the line of the northern wall of the proposed visitor centre. Trench 1, located adjacent to the existing visitor centre, measured 2m by 2m and was excavated to a depth of 1.5m. Trench 2 was located on the north-eastern corner of the proposed development. This measured 3m by 3m and was excavated to a depth of 2m. Each trench was initially excavated to a depth of 1m, with an additional 0.5m deep excavation in the centre of trench 1, and 1m in trench 2.

In addition, three boreholes were sunk across the site under archaeological observation. Boreholes 1 and 3 were located within trenches 1 and 2 respectively, while borehole 2 was located to the south at the south-eastern corner of the proposed new building. Information regarding the stratigraphy of the site gained from these investigations was used to supplement that from the test trenches.

3. RESULTS (Figs 2–4; Pls 1–2)

3.1 **Evaluation trenches**

3.1.1 *Trench 1* (Figs 2–3; Pl. 1) 2m x 2m

Excavations revealed a 0.28m thick layer of dumped cave deposits (501) sealed below a tarmac surface. The cave deposits consisted of fragments of stalagmite, stalactite and flow-stone in a red clay matrix, which had been laid down as hardcore for the modern tarmac

surface. Beneath this were two thin layers of crushed limestone and cave-deposits (505 and 507), which appeared to have formed earlier surfaces (502 and 506) in this area. These surfaces dropped 0.25m across the trench from west to east. Beneath the lower surface make-up (507), an earlier levelling layer (514) was exposed. The latter consisted of limestone fragments in a red clay matrix. It overlay an even earlier surface and associated make-up (515/516). Below this point the ground level had been made up by successive dumps of limestone rubble (518–9).

The finds recovered from levelling dumps 501 and 514 were all of 20th-century date; one sherd of residual 18th-century pottery was recovered from surface 515. No other artefacts were recovered.

Within the layer of levelling (501) for the tarmac surface, one fragment of cave deposit was recovered which contained a bone, presumably dropped on the cave floor and incorporated into the calcite concretion. This material is currently undergoing analysis at Exeter University Geography Department.

3.1.2 *Trench 2* (Figs 2–3; Pl. 2) 3m x 3m

This was located 10 east of trench 1. Excavations revealed a sequence of dumped material (503–4, 508–15 and 520) below the current garden topsoil (500). Once again, the finds recovered from these layers all dated from the 20th century. Tip lines identified within this excavation show that material, in the form of topsoil, limestone rubble, silts, sand and clay, was dumped to extend the level area out from the extant buildings and the limestone rock face (Pl. 2). Made ground was encountered to a depth of 2m within the trench. This material appeared to have been dumped without being sorted or compacted, and fissures were visible in the upper layers where material had subsided and appeared to be moving downslope to the east.

3.2 *Boreholes* (Figs 2 and 4; Pl. 3)

Three boreholes were excavated by A. Robin Hood & Associates Geotechnical (Consultants). These were sunk using a rotary or percussion-drilling rig to a maximum depth of 10.8m to determine the depth to the surface of bedrock and the nature of the overlying deposits. Information from these boreholes will be used to determine the nature and design of the foundations for the new building. The depth of stratigraphy revealed by these investigations has been incorporated with that gained from the excavation of trenches 1–2 to produce an east-west profile across the site (Fig. 4).

3.2.1 *Borehole 1*

This was located over the centre of trench 1 and was sunk to a depth of 7.1m. It revealed 2.5m of made ground over 0.5m of limestone rubble (possible weathered bedrock). Limestone bedrock was encountered at 3m below ground level.

3.2.2 *Borehole 2* (Pl. 3)

Located 17m south of trench 2, this borehole was sunk to a depth of 7.5m. The underlying stratigraphy consisted of 3.6m of made ground, over limestone rubble to a depth of 6.5m, at which point solid bedrock was encountered.

3.2.3 *Borehole 3*

Located directly over the centre of trench 2, made ground was shown to extend to a depth of c. 4.8m. This again overlay limestone rubble to a depth of 7.2m below ground level, where bedrock was encountered.

4. CONCLUSIONS

The evaluation trenches, and the results from the geotechnical investigations (boreholes), have demonstrated the stratigraphy within the area immediately to the east of the extant visitors centre to consist of made ground to a substantial depth.

The natural ground level slopes down from west to east, with solid limestone bedrock being encountered at 54.7m AOD in borehole 1 (within trench 1) and at 49.6m AOD in borehole 3 (within trench 2).

The whole area to the east of the extant buildings has been extensively landscaped, with modern levelling material being deposited to raise the ground level across the site. All the deposits encountered within trenches 1 and 2 were of modern origin. The present ground level (between 57.7m and 56.7m AOD) appears to have been created to afford safe access to the caves and associated buildings and is most likely associated with the development of the site as a tourist attraction.

No redeposited cave deposits (spoil heaps) were encountered that could be directly associated with the 19th- or early 20th-century investigations of the caves. However, it is of interest that cave deposits (501) were used as hardcore for the tarmac surface outside the gift shop. The presence of this material in a 20th-century context suggests it was stockpiled somewhere on the site and reused at a later date.

In the light of the above, the impact of the proposed development on archaeological deposits is likely to be minimal. However, displaced material of archaeological interest (such as the fragment of bone retrieved from trench 1) may be recovered during the removal of the redeposited cave deposits that have been used as make-up/hardcore in the western part of the site.

ACKNOWLEDGEMENTS

This report was commissioned by the owner of Kents Cavern, Mr N. Powe, at the request of English Heritage and the project was administered by S. J. Reed (Exeter Archaeology). Thanks are due to D. Coe (Assistant Inspector of Ancient Monuments, English Heritage) for commenting on the project design and to Mr Powe and the staff of Kents Cavern for their assistance, and provision of unlimited hot chocolate, during the fieldwork.

The site was visited by D. Coe (EH), H. Bishop (Torbay Archaeological Officer), and by Drs A. Brown and L. Hurcombe of Exeter University, who commented on the deposits and lithic material encountered. The geotechnical investigations were undertaken by A. Robin Hood & Associates Geotechnical (Consultants). The fieldwork was undertaken by the author, M.J. Dyer, P. Harvey, C.J.M. Whitton and R. Woodgate. The illustrations were prepared by J. Read (EA).

SOURCES CONSULTED

- A. Robin Hood & Associates 2002 *Kents Cavern, Torquay: Borehole Investigation*, Report ref. **1810 /01 – 02**.
- EH English Heritage 2001 *A Brief for Visual Inspection of Archaeological Stratigraphy During Geotechnical Investigation Works and for the Excavation of a Single Archaeological Test Pit*.
- EA Exeter Archaeology February 2002 *Kents Cavern: Project Design for the Excavation of Two Test Pits and Visual Inspection of Archaeological Stratigraphy During Geotechnical Investigation Works* (Project No. 4369).

APPENDIX 1: CONTEXT LIST

Context	Trench	Description	Date
500	2	Topsoil, brown, 7.5YR 4/2 slightly sandy clay.	20th century
501	1	Hardcore for tarmac surface, consisted of compacted fragments of stalagmite in a red, 10R 4/6, clay matrix.	20th century
502	1	Floor surface over 505.	-
503	2	Levelling dump, red, 205YR 4/6–5/6, slightly sandy clay with abundant small to medium sized limestone rubble, up to 40cm in diameter, and occasional cave deposit fragments.	-
504	2	Earlier topsoil layer, dark brown, 7.5YR 3/2, sandy clay, stoneless.	20th century
505	1	Thin layer of compacted crushed limestone and cave deposits forming surface 502, white 7.5YR 8/1.	-
506	1	Floor surface over 507.	-
507	1	Thin layer of compacted crushed limestone and cave deposits forming surface 506, white 7.5YR 8/1.	-
508	2	Levelling dump, red, 2.5YR 4/6–5/6 slightly sandy clay with frequent small to medium limestone rubble, up to 20cm in diameter.	-
509	2	Levelling dump, very dark grey, 7.5YR 3/1, silty sand with occasional pieces of concrete, ferrous material, sand and charcoal.	20th century
510	2	Levelling dump of mottled red, 2.5YR 5/6, clay.	20th century
511	2	Levelling dump of small limestone fragments, up to 10cm diameter, in a red, 2.5YR 4/6, matrix with occasional inclusions of topsoil and coal.	20th century
512	2	Levelling dump consisting of a mixture of clays and silts and limestone rubble.	-
513	2	Levelling dump of small limestone fragments, up to 10cm diameter, in a red, 10YR 5/0, matrix.	20th century
514	2	Levelling dump of small limestone fragments, up to 10cm diameter, in a red, 2.5YR 5/6, matrix.	20th century
515	2	Floor surface over 516.	20th century
516	1	Thin layer of compacted crushed limestone and cave deposits forming surface 515, white 7.5YR 8/1.	-
517	1	Levelling dump of small limestone fragments, up to 10cm diameter, in a red, 2.5YR 4/6, matrix.	-
518	1	Levelling dump of loose limestone fragments.	-
519	1	Levelling dump of limestone rubble in a red, 2.5YR 4/6, matrix.	-
520	2	Levelling dump of redeposited topsoil, brown, 10YR 5/3, sandy clay.	-

APPENDIX 2: FINDS LIST *by* G. Langman

The following site code was used to mark artefacts & ecofacts: KC 02.

Context Dating

<i>context</i>	<i>date/period</i>
500	modern
501	Victorian/modern
504	modern
509	modern
510	modern
511	modern
513	modern
514	modern
515	post 1780

Bone-artefact

<i>context</i>	<i>qty</i>	<i>comments</i>
504	1	toothbrush handle: 19th century

Bone-faunal

<i>context</i>	<i>qty</i>
500	6
501	2
504	27
509	1
513	1

Brick

<i>context</i>	<i>qty</i>	<i>comments</i>
509	1	frog brick fragment: modern
513	2	?air brick fragments: modern

Clay Pipe

<i>context</i>	<i>bowl</i>	<i>stems</i>	<i>dates/comments</i>
	<i>s</i>		
500	-	1	post 1600
504	-	2	post 1600

Coins/Tokens

<i>context</i>	<i>qty</i>	<i>comments</i>
500	1	George VI threepence: 1944

Copper Alloy

<i>context</i>	<i>qty</i>	<i>comments</i>
500	1	coin
504	1	highly corroded circular object (?brooch)
504	1	small unidentified object

Glass

<i>context</i>	<i>qty</i>	<i>comments</i>
500	6	4 bottle fragments, window fragment & tumbler fragment: 19th & 20th century
504	11	jar fragments, bottle fragment, window fragment: modern, 1 light green fragment: 19th/20th century

509	2	bottle fragment & window fragment: modern
510	2	bottle fragments: modern
511	4	Lea & Perrin's sauce bottle, 2 bottle fragments, cut glass vessel fragment: modern
514	1	window fragment: modern

Lithics

<i>context</i>	<i>qty</i>	<i>comments</i>
500	2	flint: 1 notched flake, 1 ?struck flake
510	1	flint: ?struck
515	1	flint: unstruck

Miscellaneous

<i>context</i>	<i>qty</i>	<i>comments</i>
500	2	tarmac fragments (discarded): modern
500	1	aluminium ring can pull (discarded): modern
500	2	ceramic egg fragments: modern
504	2	coal fragments
509	1	ceramic electrical insulator: modern
513	1	coke fragment
514	3	coke fragments

Pottery & Dating Evidence*Abbreviations Listing*

bwl	bowl
C	Century
Chin	China
cw	coarseware
Eng	English
ew	earthenware
ext	external
fb	fabric
fp	flowerpot
g	glaze
ind	industrial
int	internal
jr	jar
ND	North Devon
Por	Porcelain
sh	sherd
SS	South Somerset type
stnw	stoneware
TP	Transfer Print
ug	unglazed
unc	unclassified

<i>context</i>	<i>contents/dating evidence</i>	<i>sherds</i>	<i>vessels</i>
500	modern total sherds: 42 total vessels: 10		

	Eng ind Chin & Por (post 1800)	4	4
	Eng stnw (Victorian/20C)	2	2
	ew (post 1800, fp) coin: 1944 glass: 19C/20C miscellaneous: modern	36	4
501	Victorian/modern total sherds: 23 total vessels: 6 Eng ind Chin (post 1780) Eng stnw (Victorian/20C)	21 2	5 1
504	modern total sherds: 28 total vessels: 16 Eng ind Chin & Por (post 1800) Eng stnw (Victorian, jr) ?art pottery (?L19C/E20C, sh with int red g, ext cream g with red & blue painted lines) unc cw (?ND, 19C) ew (post 1800, fp) glass: modern tile: modern	6 3 1 1 17	6 1 1 1 7
509	modern total sherds: 5 total vessels: 4 Eng Por (post 1800) ew (post 1800, fp) brick: modern glass: modern miscellaneous: modern tile: modern	2 3	1 3
510	modern total sherds: 6 total vessels: 2 Eng ind Chin (19C/20C) SS cw (19C, bwl) glass: modern	2 4	1 1
511	modern total sherds: 5 total vessels: 4 TP (post 1780) ew (post 1800, fp) unc cw (?SS, post 1700, ug buff fb) glass: modern tile: modern	1 3 1	1 2 1
513	modern		

	total sherds: 5		
	total vessels: 5		
	Eng ind Chin (19C/20C, 1 sh burnt & vitrified)	3	3
	ew (post 1800, fp)	2	2
	brick: modern		
514	modern glass: modern		
515	Residual post 1780 total sherds: 1 total vessels: 1 TP (post 1780)	1	1

Statistics

total number of sherds: 115

minimum number of vessels: 48

Stone

<i>context</i>	<i>qty</i>	<i>comments</i>
501	1	natural stalagmite floor containing faunal bone fragment

Tile

<i>context</i>	<i>qty</i>	<i>comments</i>
504	2	ceramic water/sewage pipe fragments: modern
509	1	ceramic water/sewage pipe fragment: modern
511	1	ceramic water/sewage pipe fragment: modern

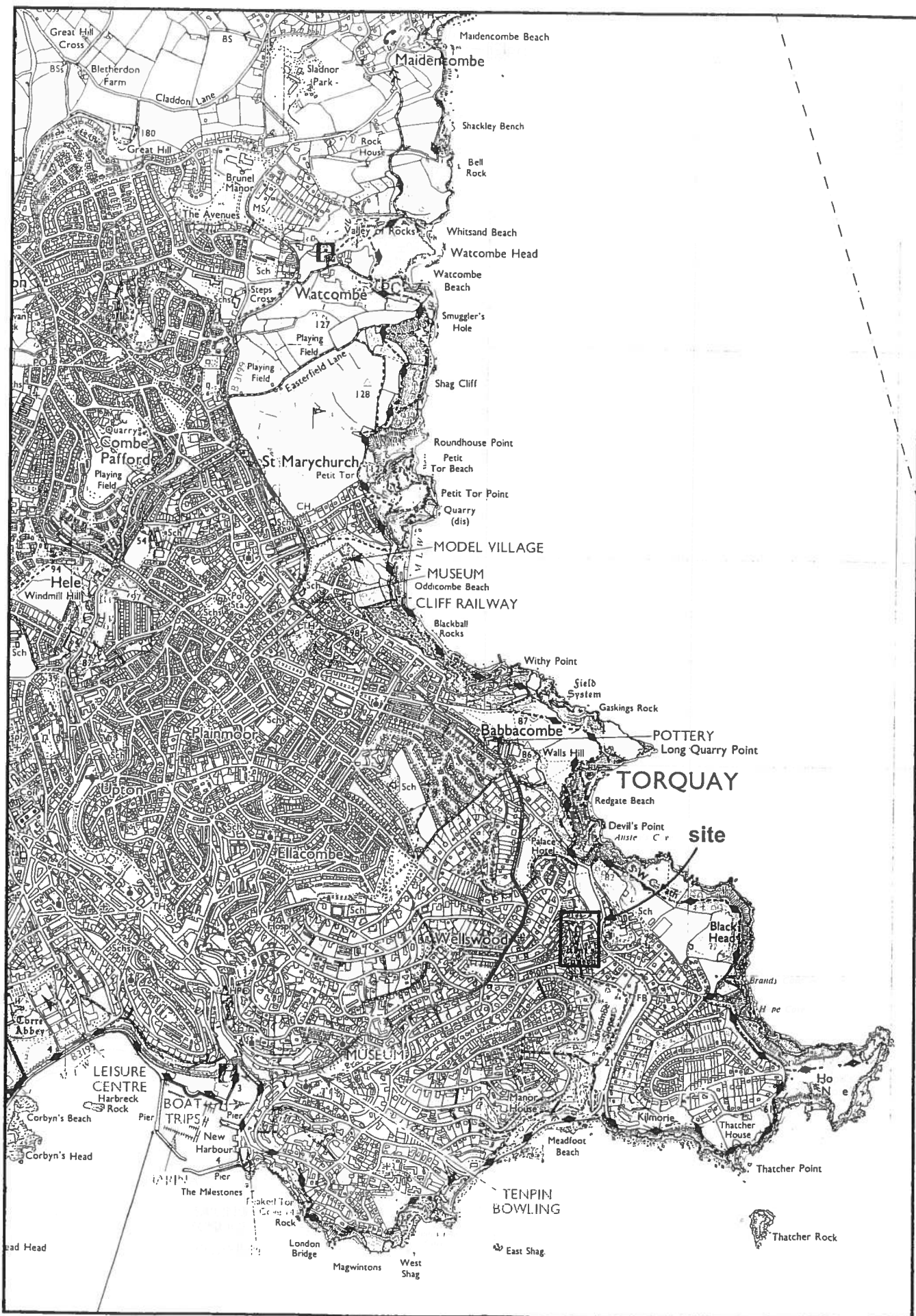


Fig. 1 Location of site. Reproduced from the 1:25000 Explorer map 31 by permission of Ordnance Survey on behalf of The Controller of Her Majesty's Stationery Office. © Crown copyright 1997. All rights reserved. Licence No. AL 100016685.

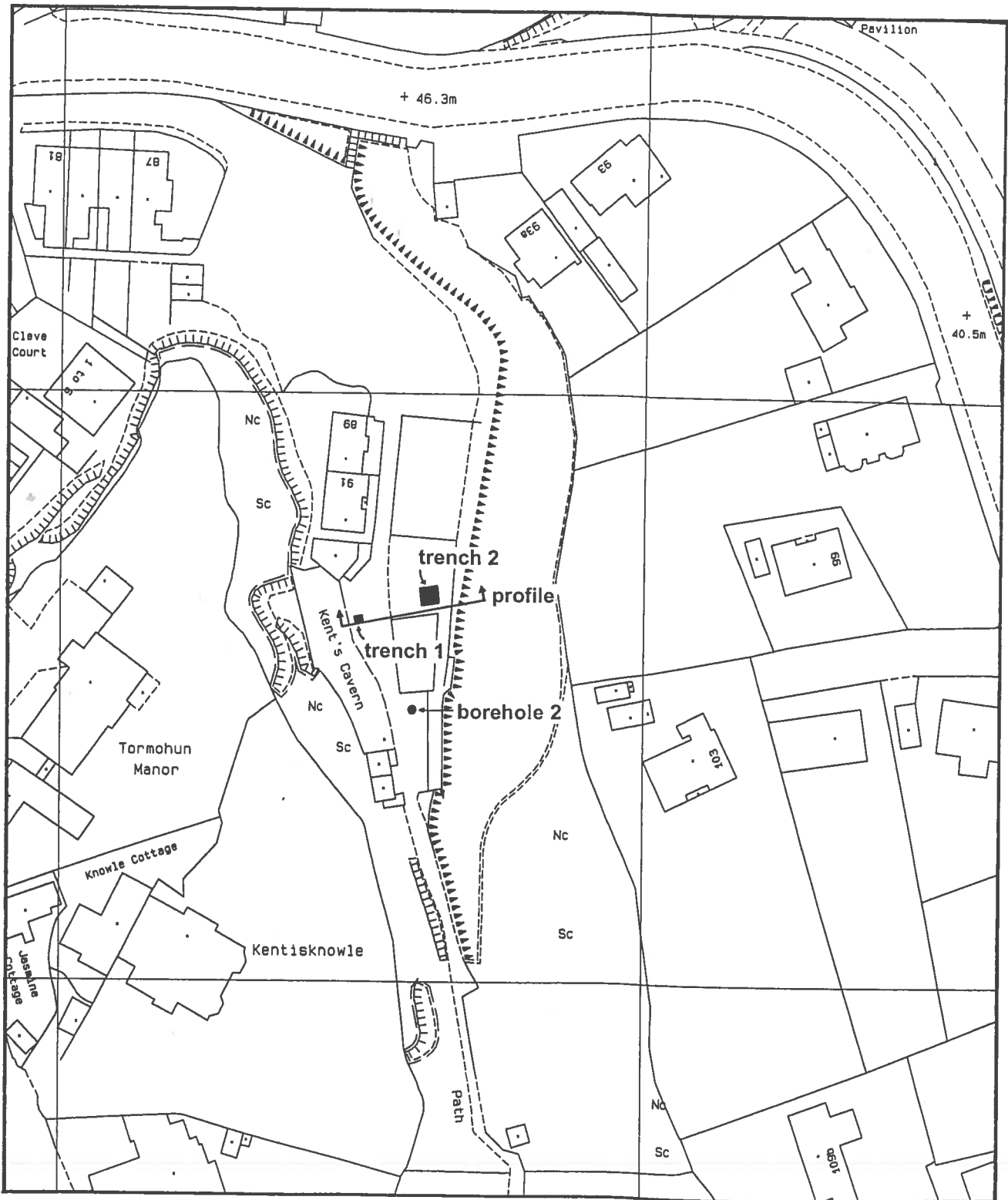
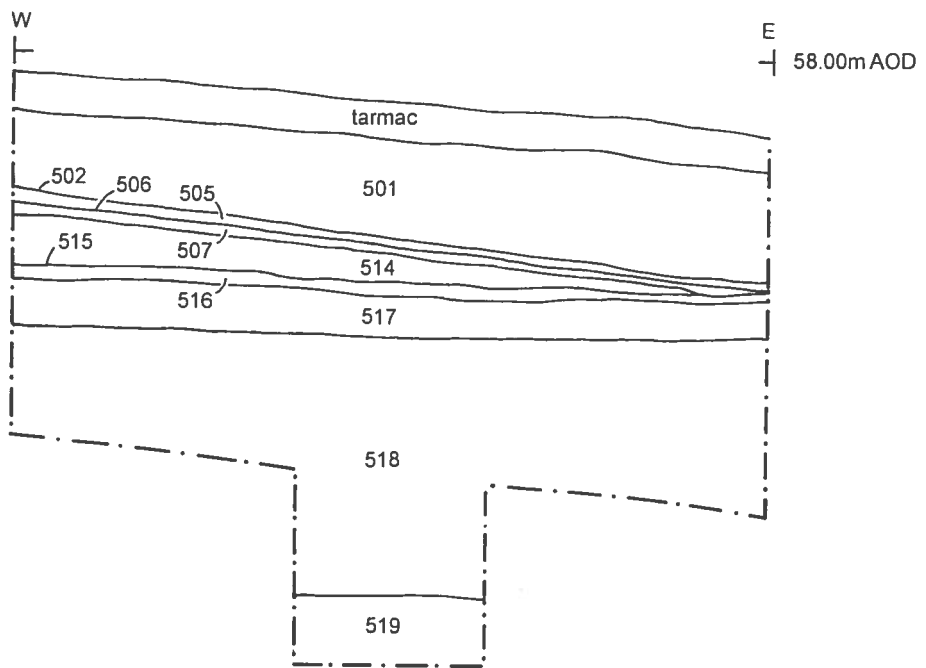


Fig. 2 Location of trenches 1–2, borehole 2 and profile across site. Reproduced from 1:1000 Superplan® by permission of Ordnance Survey on behalf of The Controller of Her Majesty's Stationery Office. © Crown copyright 2002. All rights reserved. Licence No. AL 100016685.

Trench 1



Trench 2

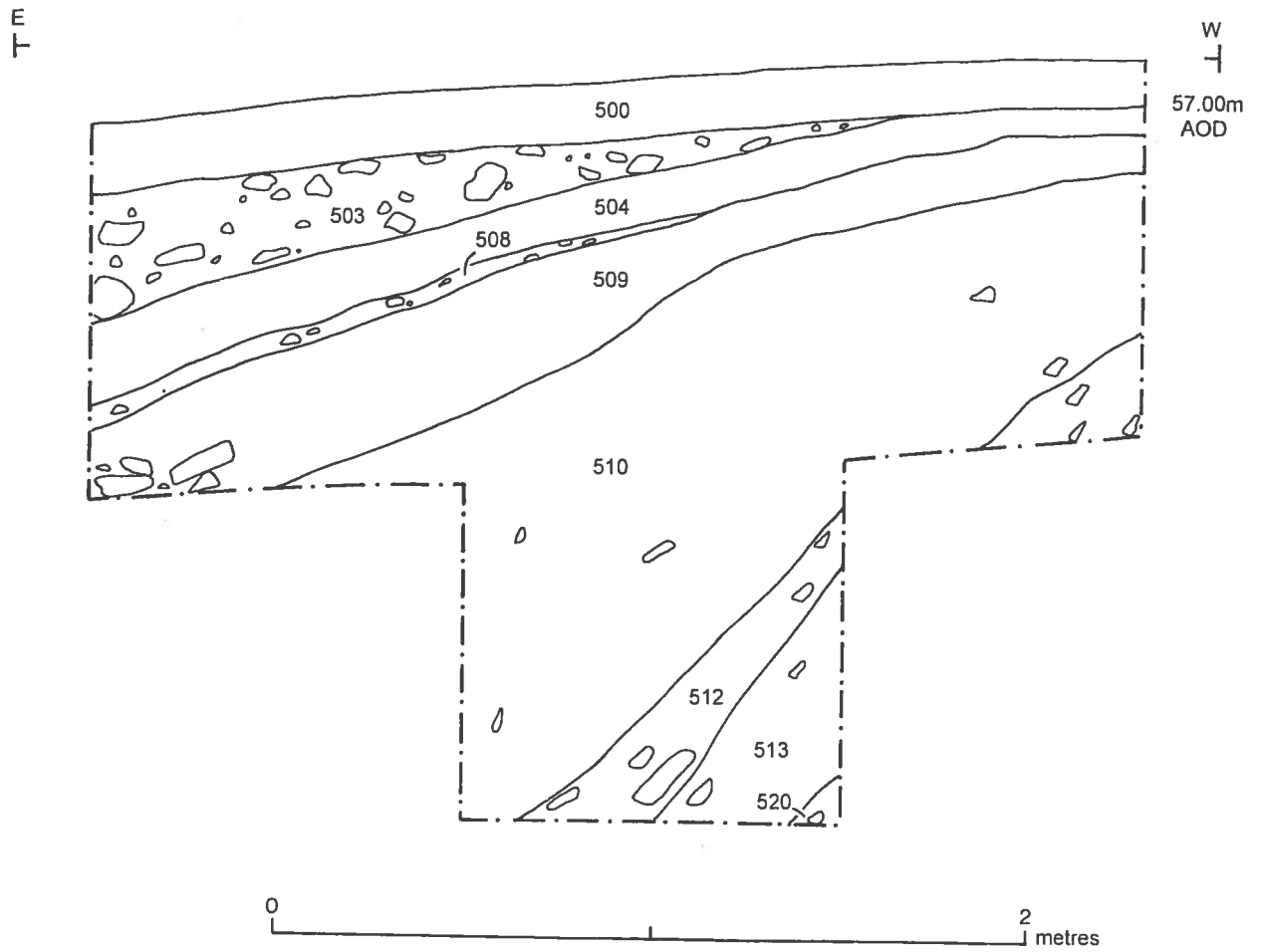


Fig. 3 Sections.

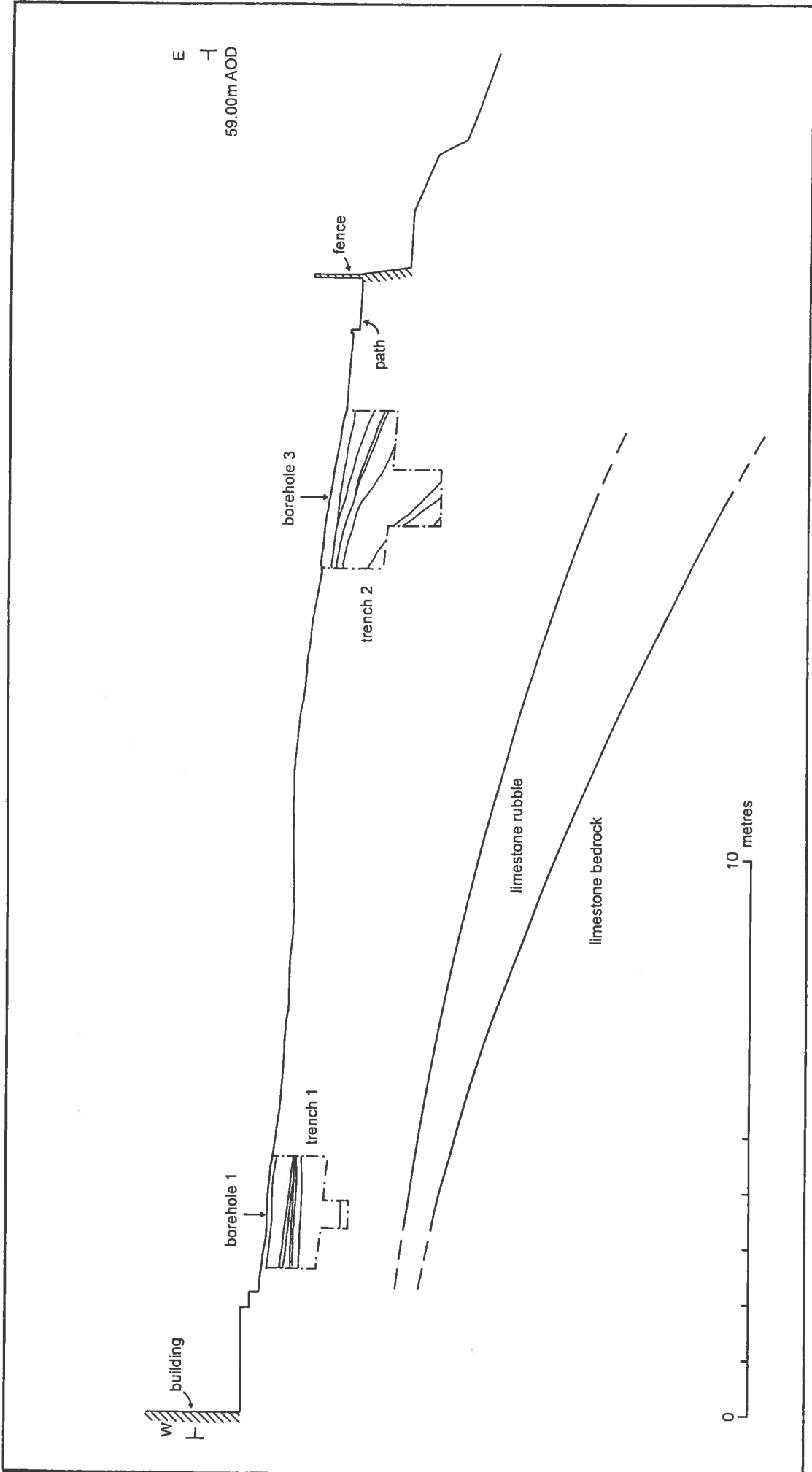


Fig. 4 Profile.



Pl. 1 Trench 1. Looking west. Scale 1m.



Pl. 2 Trench 2, showing tip lines within dumped material. Looking south. Scale 1m.



Pl. 3 Drilling rig set up over borehole 3. Looking north.



Pl. 1 Trench 1. Looking west. Scale 1m.



Pl. 2 Trench 2, showing tip lines within dumped material. Looking south. Scale 1m.



Pl. 3 Drilling rig set up over borehole 3. Looking north.